

REMARKS

Applicant acknowledges receipt of the Office action dated April 5, 2006, in which the Examiner: 1) rejected claims 18, 19, and 20 as allegedly anticipated by Odem (U.S. Publication 2003/0178560 A1); 2) rejected claim 21 as being unpatentable over Odem, in further view of Smith (U.S. Patent 4,122,339); 3) objected to claims 22 and 23 as being dependent upon a rejected base claim but otherwise allowable; and 4) allowed claims 1-17.

With this Response, Applicant amends claims 18. Reconsideration is respectfully requested.

I. ALLOWED CLAIMS

Applicant appreciates the allowance of claims 1-17, and the effective allowance of claims 22 and 23. With this Response, Applicant amends claim 22 to be in independent form. It is noted that claim 22 already contained these limitations by virtue of its previous dependency, and thus the amendment should not be considered a narrowing amendment.

Thus, claims 22 and 23 should likewise be in a condition for allowance.

II. SECTION 102 REJECTIONS

A. Claim 18

Claim 18 stands rejected as allegedly anticipated by Odem. Applicant amends claim 18 to more clearly define over Odem's system which requires two gamma ray detectors at different axial spacings.

Odom is directed to an apparatus and method for determining density, porosity and fluid saturation of formations penetrated by a borehole. (Odom Title). In each embodiment discussed in Odem, two gamma ray detectors are apparently used. (*See, e.g.*, Odem's Figure 1). In fact, Odem specifically states that two gamma ray detectors are required.

The [Odom] system requires two gamma ray detectors at different axial spacings from the source . . .

(Odom Abstract).

Claim 18 as amended specifically recites, "a neutron source coupled to the sonde, the neutron source operable to produce a substantially known quantity of high energy

neutrons; and only one gamma ray detector, the gamma ray detector disposed within the sonde at a spaced apart location from the neutron source.” Applicants respectfully submit that Odom does not teach or suggest such a system. In particular, Odom specifically states that two gamma ray detectors are required. For this reason alone the rejection should be removed.

Moreover, as mentioned in Applicant’s specification, the reason for requiring a tool to have multiple gamma ray detectors is a neutron source that is not equipped to count or approximate the number of neutrons produced in during a neutron burst. (Applicant’s Specification, Paragraph [0039]). In these circumstances, ratios of count rates for near and far detectors are used, as the ratios are substantially insensitive to actual neutron counts. (*Id.*) It follows that the Odom system “requires two gamma ray detectors at different axial spacings” because Odom fails to expressly or inherently teach “a neutron source coupled to the sonde, the neutron source operable to produce a substantially known quantity of high energy neutrons.”

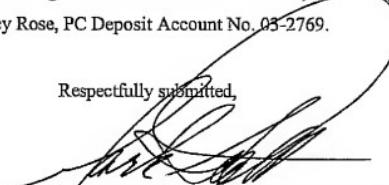
Based on the foregoing, Applicant respectfully submits that claim 18, and all claims which depend from claim 18 (claims 19-21), should be allowed. Applicant amends claim 20 to make more clear that the control of neutrons produced is based at least partially on the number of neutrons counted by the neutron detector, and not to define over any cited art.

Appl. No. 10/671,351
Amendment Dated June 5, 2006
Reply to Office action of April 5, 2006

III. CONCLUSION

Applicants respectfully request reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to the Conley Rose, PC Deposit Account No. 03-2769.

Respectfully submitted,



Mark E. Scott
PTO Reg. No. 43,100
CONLEY ROSE, P.C.
(512) 391-1900 (Phone)
(512) 320-9182 (Fax)
ATTORNEY FOR APPLICANTS